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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,540	07/23/2001	Sugio Miyazawa	939 026	6358
25191	7590	10/18/2004	EXAMINER	
BURR & BROWN PO BOX 7068 SYRACUSE, NY 13261-7068			DONG, DALEI	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/857,540	Applicant(s) MIYAZAWA ET AL.	
	Examiner Dalei Dong	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,426,343 to Rhodes in view of U.S. Patent No. 4,285,732 to Charles.

Regarding to claim 1, Rhodes discloses in Figure 2, a discharge vessel (10) or chamber for a high-intensity discharge lamp, comprising a central body (11) having a discharge space provided therein, two capillaries (13) closing off respective end openings of the central body and an electrode (19 shown in Figure 3) positioned within respective one of the capillaries; wherein the central body and the capillaries comprise an alumina material or an alumina-based ceramic material (see column 4, lines 53 to column 5, lines 18).

However, Rhodes does not disclose an average diameter of alumina grains in the capillaries is in a range of 10 microns to 25 microns. Charles teaches the alumina grains with an average diameter of 10 microns to 25 microns (see column 7, lines 57-68).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the alumina grains in the capillaries of Rhodes with

average diameter of 10 microns to 25 microns of Charles in order to achieve the best optical properties and strength.

Regarding to claim 2, Rhodes discloses an amount of magnesium oxide, yttrium oxide, zirconium oxide, scandium oxide, lanthanum oxide, or their combination present in the material of the capillaries is 1.5 times greater than that present in the material of the central body (see column 4, lines 53-67).

Regarding to claim 3, Rhodes discloses the central body (11) and the capillaries (13) comprise an alumina-based composition (see column 4, lines 53-67).

Regarding to claim 5, Rhodes discloses in Figure 2, a discharge vessel or chamber (10) for a high-intensity discharge lamp, comprising a central body (11) having a discharge space provided therein, two capillaries (13) closing off respective end openings of the central body and an electrode (19) positioned within each respective one of the capillaries; wherein the central body and the capillaries comprise an alumina material or an alumina-based ceramic material (see column 4, lines 53 to column 5, lines 18).

However, Rhodes does not disclose an average diameter of alumina grains in the capillaries is in a range of 10 microns to 25 microns. Charles teaches the alumina grains with an average diameter of 10 microns to 25 microns (see column 7, lines 57-68).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the alumina grains in the capillaries of Rhodes with

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average diameter of 10 microns to 25 microns of Charles in order to achieve the best optical properties and strength.

Furthermore, Applicant claims the central body and the capillaries are simultaneously sintered; however the method of forming a device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

Response to Arguments

3. Applicant's arguments filed August 20, 2004 have been fully considered but they are not persuasive.

In response to Applicant's argument that sealing members 12 and 13, 13' do not constitute or include any portions that would be considered a capillary structure by one of ordinary skill in the art. Examiner asserts that as clearly shown in Figure 2 of Rhodes, sealing or capillary member 13 with flange extending in the horizontal axis of the discharge vessel constitutes as the capillary of the discharge vessel. Examiner also asserts that albeit, Rhodes does not call sealing member 13 as capillary; however, sealing member 13 satisfies the claimed structural limitation as well as the functionality and the intended use of the claimed capillary. Further, given the broadest interpretation that capillary is merely a tube with a very small diameter, therefore Examiner interprets sealing member 13 is the claimed capillary of the discharge vessel. Thus, Examiner asserts that the prior art of record is valid and maintains the rejection.

Also, in response to Applicant's argument that prior art of record fails to teach or suggest in Charles reference that Charles material contains 1.5 times more magnesium oxide, zirconium oxide, scandium oxide, lanthanum oxide, or a combination thereof than that which is present in Rhodes discharge vessel. Examiner asserts that Charles is merely used to teaches that the average diameter of alumina grains in the capillaries can be made in the range of 10 microns to 25 microns and it is not used to teach any substituting of the composition of the capillaries of Rhodes. Furthermore, Rhodes clearly discloses an amount of magnesium oxide, yttrium oxide, zirconium oxide, scandium oxide, lanthanum oxide, or their combination present in the material of the capillaries is 1.5 times greater than that present in the material of the central body (see column 4, lines 53-67). Thus, Examiner asserts that the prior art of record teaches or suggest the claimed invention and maintains the rejection.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art are cited to further show the state of the art of composition of a discharge vessel.

U.S. Patent No. 5,861,714 to Wei.

U.S. Patent No. 6,004,503 to Neil.

U.S. Patent No. 6,169,366 to Niimi.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (571)272-2370. The examiner can normally be reached on 8 A.M. to 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



D.D.

October 4, 2004



Joseph Williams
Primary Examiner
Art Unit 2879